

45. The apparatus of claim 43 where said FAP information that is explicitly included in said input comprises interspersed bookmarks.

46. The apparatus of claim 45 where each bookmark conveys information about identity of a FAP, and ultimate state of the FAP.

47. The apparatus of claim 46 where said information conveys amplitude information

48. The apparatus of claim 46 where said information conveys a duration measure for transiting to specified state.

49. The apparatus of claim 46 where the said ultimate state of the FAP is reached in accordance with a specified transition path.

50. The apparatus of claim 49 where the transition path is selected by said facial animation module.

51. The apparatus of claim 49 where said transition path is specified by the bookmark.

52. The apparatus of claim 49 where the transition path follows the equation $f(t) = a_s + (a - a_s)t$, where a_s is amplitude measure at beginning of transition, a is specified in said bookmark, and t is time, ranging between 0 and 1.

53. The apparatus of claim 49 where the transition path follows the equation $f(t) = a_s + (1 - e^{-t})(a - a_s)$, where a_s is amplitude measure at beginning of transition, a is specified in said bookmark, and t is time, ranging between 0 and 1.

54. The apparatus of claim 49 where the transition path follows the equation

$f(t) = a_s + \frac{(a - a_s)}{(1 - e^{-\lambda(t - FAPdur/2)})}$, where a_s is amplitude measure at beginning of transition, a

is specified in said bookmark, $FABdur$ is specified in said bookmark, λ is a specified parameter, and t is time, ranging between 0 and 1.

55. The apparatus of claim 49 where the transition path follows the equation

$f(t) = a_s + (2t^3 - 3t^2 + 1) + (-2t^3 + 3t^2)a + (t^3 - 2t^2 + t)g_s$, where a_s is amplitude measure at beginning of transition, a is specified in said bookmark, g_s is a specified parameter, and t is time, ranging between 0 and 1.

56. The apparatus of claim 49 where the FAP amplitude transition path follows the equation

$FAP_{amp}(t) = startVal_i(2t^3 - 3t^2 + 1) + FAP_{val}_i(-2t^3 + 3t^2) + startTan_i(t^3 - 2t^2 + 1)$, where $startVal$, FAP_{val} , and $startTan$, are specified constants.

57. A method comprising the steps of:

receiving an input that includes a text specification and explicit FAP information, and outputting a synthesized voice at a first output, and phonemes as well as said FAP information at a second output;

generating a sequence of facial animation parameters from signals of said second output;

rendering images from output signals developed by said step of generating; and
a combining said synthesized voice and said images.

58. The method of claim 57, where said step of receiving accepts said input from a remote location that is communicated to said apparatus via a communication network.

59. The method of claim 57 where said FAP information that is explicitly included in said input comprises interspersed bookmarks.

60. The method of claim 59 where each bookmark conveys information about identity of a FAP, and ultimate state of the FAP.

61. The method of claim 60 where said information conveys amplitude information

62. The method of claim 60 where said information conveys a duration measure for transiting to specified state.

63. The method of claim 60 where the said ultimate state of the FAP is reached in accordance with a specified transition path.

64. The method of claim 63 where the transition path is selected by said facial animation module.

65. The method of claim 63 where said transition path is specified by the bookmark.

66. The method of claim 63 where the transition path follows the equation

$f(t) = a_s + (a - a_s)t$, where a_s is amplitude measure at beginning of transition, a is specified in said bookmark, and t is time, ranging between 0 and 1.

67. The method of claim 63 where the transition path follows the equation

$f(t) = a_s + (1 - e^{-t})(a - a_s)$, where a_s is amplitude measure at beginning of transition, a is specified in said bookmark, and t is time, ranging between 0 and 1.

68. The method of claim 63 where the transition path follows the equation

$f(t) = a_s + \frac{(a - a_s)}{(1 - e^{-\lambda(t - FABdur/2)})}$, where a_s is amplitude measure at beginning of transition, a is specified in said bookmark, $FABdur$ is specified in said bookmark, λ is a specified parameter, and t is time, ranging between 0 and 1.

69. The method of claim 49 where the transition path follows the equation

$f(t) = a_s + (2t^3 - 3t^2 + 1) + (-2t^3 + 3t^2)a + (t^3 - 2t^2 + t)g_s$, where a_s is amplitude measure